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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Arthur G. Taveras, et al.

Serial No.: 10/680,393

Filed: 10/07/2003

For: **THIADIAZOLEDIOXIDES AND  
THIADIAZOLEOXIDES AS CXC-  
AND CC- CHEMOKINE RECEPTOR  
LIGANDS**

Examiner: To Be Assigned

Group Art Unit: 1614

Atty. Docket No.: OC01643K1

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450  
Mail Stop: Amendment

Sir:

(a) Pursuant to Rule 56, it is requested that the documents listed on the accompanying PTO-1449 Form be considered and made of record in the above-identified patent application. Copy(ies) of these references ☒ are attached ☐ were filed in related application U.S. Serial No(s) \_\_\_\_\_ filed \_\_\_\_\_, respectively.

(b) No fee is believed due because:

- ☐ This Information Disclosure Statement is being filed within three (3) months of the filing date of the application.
- ☐ This Information Disclosure Statement is being concurrently filed with the above-identified application.
- ☐ This Information Disclosure Statement is being concurrently filed with a Request for Continued Examination (RCE).
- ☒ This Information Disclosure Statement is being filed prior to the mailing of a first Office Action on the merits.

(c) ☐ This Information Disclosure Statement is being filed before the mailing date of any final action, notice of allowance or an action that otherwise closes prosecution; and

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement; or

- ☐ The Commissioner is hereby authorized to charge the requisite fee listed on the attached Fee Transmittal Sheet.
- (d) ☐ This Information Disclosure Statement is being filed on or before the payment of the issue fee; and
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- ☐ The Commissioner is hereby authorized to charge the requisite fee listed on the attached Fee Transmittal Sheet.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required for this Information Disclosure Statement, or credit any overpayment to Deposit Account No. 19-0365, Patent Case No. OC01643K1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,  
SCHERING-PLOUGH CORPORATION

Dated: **September 24, 2004**  
\_\_\_\_\_  
SCHERING-PLOUGH CORPORATION  
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FORM PTO-449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use several sheets if necessary)</i>	ATTY. DOCKET NO.: <b>OC01643K1</b>	SERIAL NO.: <b>10/680,393</b>
	APPLICANT: <b>Arthur G. Taveras, et al.</b>	
	FILING DATE: <b>10/07/2003</b>	GROUP: <b>To Be Assigned</b>

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA	6,420,396 B1	07/16/02	Albers, et al.			
	AB	5,206,252	04/27/93	Butera, et al.			
	AC	5,354,763	10/11/94	Butera, et al.			
	AD	5,397,790	03/14/95	Butera, et al.			
	AE	5,401,753	03/28/95	Butera, et al.			
	AF	5,403,853	04/04/95	Butera, et al.			
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	AI	5,532,245	07/02/96	Butera, et al.			
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	AK	4,170,588	10/09/79	Hegenberg, et al.			
	AL	4,639,523	01/27/87	Nohara, et al.			
	AM	5,840,764	11/24/98	Quagliato, et al.			
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	AO	6,300,325 B1	10/09/01	Widdowson, et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
	AP	DE 33 09 655 A1	09/20/84	GERMANY				
	AQ	EP 0 099 121 A2	01/25/84	EP				
	AR	EP 0 376 079 A	07/04/90	EP				
	AS	EP 0 275 997 A	07/27/88	EP				
	AT	EP 0 796 243 B1	01/27/99	EP				
	AU	GB 1,186,096	04/02/70	Great Britain				
	AV	WO 94/29277	12/22/94	WIPO				
	AW	WO 95/14005	05/26/95	WIPO				
	AX	WO 96/14300	05/17/96	WIPO				
	AY	WO 96/15103	05/23/96	WIPO				
	AZ	WO 98/33763	08/06/98	WIPO				
	BA	WO 00/20378	04/13/00	WIPO				
	BB	WO 00/21927 A	04/20/00	WIPO				
	BC	WO 00/35855	06/22/00	WIPO				
	BD	WO 00/35864	06/22/00	WIPO				
	BE	WO 00/73260 A1	12/07/00	WIPO				
	BF	WO 01/29000 A2	04/26/01	WIPO				
	BG	WO 01/64208 A1	09/07/01	WIPO				
	BH	WO 01/64691 A1	09/07/01	WIPO				
	BI	WO 01/68569 A2	09/20/01	WIPO				
	BJ	WO 01/92202 A1	12/06/01	WIPO				
	BK	WO 02/057230	07/25/02	WIPO				
	BL	WO 02/067919	09/06/02	WIPO				
	BM	WO 02/076926 A	10/03/02	WIPO				
	BN	WO 02/083624 A1	10/24/02	WIPO				
	BO	WO 03/031440 A1	04/17/03	WIPO				
	BP	WO 03/057676 A1	07/17/03	WIPO				
	BQ	WO 03/080053 A1	10/02/03	WIPO				

EXAMINER

DATE CONSIDERED

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FORM PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO.: <b>OC01643K1</b>	SERIAL NO.: <b>10/680,393</b>
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use several sheets if necessary)</i>				APPLICANT: <b>Arthur G. Taveras, et al.</b>	
				FILING DATE: <b>10/07/2003</b>	GROUP: <b>To Be Assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>					
	BR	esp@cenet Document, "1,2,5-Thiadiazole-1-oxides and 1,1-dioxides, process for their preparation and their use as medicaments" (for DE33 09 655 which is attached to said esp document)			
	BS	Chemical Abstract 66:18527 for Maahs, Guenther, <i>et al.</i> , "Syntheses and derivatives of squaric acid," <i>Angewandte Chemie</i> <b>78(20)</b> :927-31 (1966) (which is attached to said abstract)			
	BT	Chemical Abstract 87:134383 for Augustin, Manfred, <i>et al.</i> , "Disubstitution in 2,3-dichloromaleimides" <i>Zeitschrift Fuer Chemie</i> <b>17(6)</b> :215-216 (1977) (which is attached to said abstract)			
	BU	Chemical Abstract No. 87:151727 for Ehrhardt, Heinz, <i>et al.</i> , "Amides and thioamides of squaric acid: syntheses and reactions," <i>Chemische Berichte</i> <b>110(7)</b> :2506-23 (1977) (which is attached to said abstract)			
	BV	Chemical Abstract 102:24633 for Stegelmeier, Hartmut, <i>et al.</i> , "1,2,5-Thiadiazole-1-oxide and 1,1-dioxides and their use as pharmaceuticals" (for DE3309655 which is attached to said abstract)			
	BW	Chemical Abstract 104:129517 for Gruenefeld, Johann, <i>et al.</i> , "Reactions of squaric acid with carbodiimides," <i>Archiv der Pharmazie</i> <b>318(12)</b> :1062-70 (1985) (which is attached to said abstract)			
	BX	Chemical Abstract No. 122:160745 for Tillack, Annegret, <i>et al.</i> , "Assymmetric catalysis. IV. Hydrosilylation of acetophenone with pyrroline-2,5-dione modified [Rh(COD)C1]2 catalyst," <i>Journal of Organometallic Chemistry</i> <b>482</b> :85-91 (1994) (which is attached to said abstract)			
	BY	Chemical Abstract No. 125:300482 for Chen, Yizhao, <i>et al.</i> , "Reaction of dibutyl oxosquarate with aromatic primary amines," <i>Sichuan Daxue Xuebao, Ziran Kexueban</i> <b>33(2)</b> :182-186 (1996) (which is attached to said abstract)			
	BZ	Chemical Abstract No. 130:222994 for Chen, Yi-Zhao, <i>et al.</i> , "Synthesis of asymmetric aryl-substituted amides of squaric acid and asymmetric isosquarylium amides," <i>Hechen Huaxue</i> <b>6(4)</b> :383-392 (1998) (which is attached to said abstract)			
	CA	Butera, John A., <i>et al.</i> , "Design and SAR of Novel Potassium Channel Openers Targeted for Urge Urinary Incontinence. 1. N-Cyanoguanidine Bioisosteres Possessing in Vivo Bladder Selectivity," <i>J. Med. Chem.</i> <b>43</b> :1187-1202 (2000)			
	CB	Davis, Peter D., <i>et al.</i> , "Inhibitors of protein kinase C 1. 2,3-Bisarylmaleimides," <i>J. Med. Chem.</i> <b>35</b> :177-184 (1992)			
	CC	Hanaineh-Abdelnour, Leila, <i>et al.</i> , "Some synthetic applications of 2,3-Dichloro-N-phenylmaleimide: A Novel Synthesis of 2-Phenylpyrrolo[3,4-b]quinoxaline-1,3-diones. I," <i>Tetrahedron</i> <b>55</b> :11859-11870 (1999)			
	CD	Hoffman, Jacob M., <i>et al.</i> , "Conformational Requirements of Histamine H <sub>2</sub> -Receptor Inhibitors: Structure-Activity Study of Phenylene Analogues Related to Cimetidine and Tiotidine," <i>Journal of Medicinal Chemistry</i> <b>26(2)</b> :140-44 (1983)			
	CE	Karady, Sandor, <i>et al.</i> , "1,2,5-Thiadiazole-1-Oxides. I. Synthesis and Reactions of Alkoxy and Alkylthio Analogs," <i>Heterocycles</i> <b>16(9)</b> :1561-4 (1981)			
	CF	Martinez, Ana, <i>et al.</i> , "Synthesis of Nonsymmetrically 3,4-Disubstituted 1,2,5-Thiadiazole Dioxides," <i>Journal of Heterocyclic Chemistry</i> <b>35(2)</b> :297-300 (1998)			
	CG	Neuse, Eberhard W., <i>et al.</i> , "Poly(squaryl amides)" <i>Polymer</i> <b>15</b> :339-45 (1974)			
	CH	Patent Abstracts of Japan, vol. 018, no. 361 (c-1222), July 7, 1994 and JP 06 092915A, April 5, 1994 abstract			
	CI	Schostarez, Heinrich J., <i>et al.</i> , "Cyanoguanidine Bioisosteres in Potassium Channel Openers: evaluation of 3,4-Disubstituted-1,2,5-Thiadiazole-1-Oxides," <i>Bioorganic &amp; Medicinal Chemistry Letters</i> <b>6(18)</b> :2187-92 (1996)			
	CJ	Wen, Richard Y., <i>et al.</i> , "The Chemistry of 1,2,5-Thiadiazoles. II. 3,4-Disubstituted Derivatives of 1,2,5-Thiadiazole 1,1-Dioxide," <i>J. Org. Chem.</i> <b>40(19)</b> :2743-8 (1975)			
EXAMINER			DATE CONSIDERED		
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### To Be Assigned

*(Use several sheets if necessary)*

**OTHER DOCUMENTS** *(Including Author, Title, Date, Pertinent Pages, Etc.)*

[illegible]

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Application No.: 10/680,393

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Applicant: Arthur G. Taveras, et al.

Title: THIADIAZOLEDIOXIDES AND THIADIAZOLEOXIDES AS CXC- AND CC- CHEMOKINE RECEPTOR LIGANDS

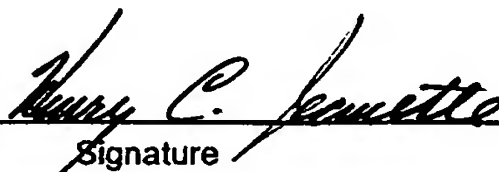
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